

## REMARKS

5        Claims 1-13 have been presented for examination in the  
above-identified U.S. Patent Application.

      Claims 1-13 have been rejected in the Office Action  
dated May 9, 2005.

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      Claims 1-13 are still in the Application and  
reconsideration of the application is hereby respectfully  
requested.

15        An amendment to the Specification has been provided.  
This amendment corrects a clear error and brings the  
amended Paragraph into conformity with the rest of the  
Specification.

20        Referring to paragraph 2 of the Office Action dated  
May 9, 2005, Claims 1, 2, 5-6, and 7-9 have been rejected  
under 35 U.S.C. 102(e) as being anticipated by U.S. Patent  
6,781,456 issued in the name of Pradhan. Referring to  
paragraph 3 of the Office Action, Claims 1-4 and 10-13 have  
25        been rejected under 35 U.S.C. 102(e) as being anticipated  
by U.S. Patent 6,593,801 issued in the name of Hattori.

      Before discussing the references, a summary of the  
present invention will provided. In the automotive data  
30        processing environment, a large amount of electrical noise

is generated, for example, by the engine. Furthermore, many of the sensors that provide the input signals for the control processor of an automobile are located at a large distance from the processor. Because of the noisy  
5 environment and the length of the data paths, the possibility of an error being generated is very great. To reduce the possibility of error, the present invention provides for a single logic signal to be transmitted by to the control processor by a data line carrying a  
10 predetermined logic signal and a data line carrying the complement of the predetermined logic signal. Note that one advantage of this scheme is that, presumably, the noise will have the same voltage-changing effect on both lines. For example, for a logic one, an external noise source may  
15 not affect this logic signal, but would change the complement to an incorrect logic one. Thus, by comparing the two received logic signals, when they are the same, then the integrity of the logic signal has been compromised. Thus, two complementary, binary logic signals  
20 provide greater security for the accurate transmission of logic data.

Referring to the Pradhan and Hattori references, both of these references describe circuits using differential  
25 amplifiers. While the differential amplifier requires two input signals, the output signal is some combination of the input signals. Put another way, in the present invention, the difference in voltage level between the two lines is, in the best case, the maximum possible. With the use of  
30 differential amplifier, this difference is less than the

maximum difference. Therefore, a device using differential amplifiers would be more susceptible to noise, i.e., more provide more incorrect error indications. For example, in Fig. 1, 2, and 3, the conductors from the differential  
5 amplifier 10 do not have the maximum voltage separation. Just as importantly, the voltages that are transmitted over the two conductors are not independent as is the case for the present invention. With respect to the Pradhan reference, the Specification and the Claims include a  
10 limitation of a frequency detector. This limitation is not found in the present invention and is not found in the Claims of the Application.

Expressed another way, the Pradhan reference and the  
15 Hattori reference appear to be non-analogous art. Therefore, rejection of Claims 1, 2, 5-6, and 7-9 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,781,456 issued in the name of Pradhan and the rejection of Claims  
20 1-4 and 10-13 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,593,801 issued in the name of Hattori is respectfully traversed.

**CONCLUSIONS**

5 In view of the foregoing discussion and the foregoing  
amendments, it is believed that Claims 1-13 are now in  
condition for allowance of and allowance of Claims 1-13 is  
respectfully requested. Applicant hereby respectfully  
requests a timely Notice of Allowance be issued for this  
Application.

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Should any issues remain that could be resolved by a  
telephonic interview, Examiner is requested to telephone  
the undersigned attorney.

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Respectfully submitted,



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